

REMARKS

Claims 19, 21-22, 24, 27-29, 31-33, 36, 38, and 40-43 will be pending upon entry of the present amendment. Claims 40-43 are new. No new matter is being presented.

The drawings were objected to under 35 CFR 1.83(a) as failing to show features of claims 19, 22, 27, 29, and 31. In particular, the Examiner asserted that the drawings fail to show “an electronic device activated through a projection portion wherein the projecting portion is shaped to form a ring or is surrounded by dyke or barrier and formed on a surface of the electronic device.”¹ Claims 22, 29, 31-33, 36, and 38 were rejected under 35 U.S.C. § 112, first paragraph, as not being supported by a written description and as not being enabled, due to that same quoted language in the claims.

With respect to claims 19 and 27, Figures 7-8 disclose a ring-shaped projecting portion structured to enable the device to be activated through the projecting portion. Figures 7-8 show a ring-shaped projecting portion 51 positioned on an electronic device 30. As explained on page 7, line 22 – page 8, line 10, the ring 51 abuts the upper half-mold 120 in Figure 7 to prevent any plastic material from covering the inner part 31 of the device 30. Figure 8 shows the inner part 31 of the device 30 being uncovered, which would enable the device to be activated through the opening in the ring.

The applicant disagrees with the assertion that the drawings and the specification do not support the above-quoted language of claims 22, 29, and 31 regarding a projecting portion being surrounded by a dyke or barrier and the electronic device being activated through the projecting portion. Page 4, lines 14-17 and original claim 22 both describe the dyke surrounding projecting portion. The language of original claim 22 was already incorporated into page 4 of the detailed description in the Amendment filed on September 15, 2003. Being filed herewith are formal drawings of Figures 2A and 2B which were amended in the Amendment filed December 3, 2002 to show the dyke 52 surrounding the projecting portion 51.

Support for the activation of the electronic device through the projecting portion can be found throughout the entire specification and figures. The main purpose of the entire

¹ Not all of the quoted language is found in claims 19 and 27. In particular, claims 19 and 27 do not recite a dyke or barrier.

invention is to enable an electronic device 30 to be activated through the projecting portion 50/51. The specification repeatedly reports that projecting portion is aligned with both a window 70 of a protective package 9 and with the electronic device/sensor 30 (e.g., p. 4, lines 8-19; p. 5, lines 6-13; p. 7, lines 1-13). The specification further indicates that the projecting portion 50/51 can be elastic and/or transparent (p. 4, lines 9-13; p.7, line 19). In addition, each of Figures 2B, 4-6, and 8 shows the projecting portion 50/51 aligned with the package window 70 and the electronic device/sensor 30. One of ordinary skill in the art would easily recognize that the electronic device/sensor is activated through the projecting portion 50/51 and window 70.

For the reasons expressed above, the drawings do show every feature of the claimed invention and claims 22, 29, 31-33, 36, and 38 are supported by an enabling written description of the invention with the meaning of 35 U.S.C. § 112, first paragraph.

Claims 19, 21-22, 24, 27-29, 31-33, 36, and 38 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,894,707 to Yamawaki et al. ("Yamawaki") in view of U.S. Patent No. 5,948,991 to Nomura et al. ("Nomura").

Nomura and Yamawaki do not teach or suggest the invention recited in claim 19, as amended. In particular, claim 19 recites a packaged electronic device that includes an electronic circuit with a pressure sensor, and ring-shaped, elastic projection portion that projects from a surface of the device into a window to enable the pressure sensor to be activated through the projection portion when the device is in use. Nomura and Yamawaki do not teach or suggest such a ring-shaped projecting portion for a pressure sensor circuit.

There is no motivation in the prior art for combining Nomura and Yamawaki to create the claimed invention. Nomura shows a pressure-sensitive chip 130 with a gel-like protective member 132 covering the entire top of the chip 130. Yamawaki shows an image sensor 1, a glass window pane 2, 12, and an enclosed wall 3 that extends between the image sensor and the glass window. The reason that the wall 3 is ring-shaped is obvious: to allow the image sensor an unobstructed view through the space that is enclosed by the wall 3. Such an unobstructed view is irrelevant for a pressure sensor like the chip 130 of Nomura. Thus, the prior art does not provide any motivation for adding the protective member 130 of Nomura to a ring shape like the wall 3 of Yamawaki.

The applicants respectfully disagree with the motivation given by the Examiner for combining Yamawaki with Nomura. The Examiner states that it would have been obvious to replace the optical device 1 of Yamawaki with the pressure-sensitive chip 130 of Nomura in order to use the device in an application that requires a pressure sensor chip. This is incorrect for several reasons. First, the Yamawaki device includes a rigid glass window pane 12 that would prevent proper operation of the device if the optical device 1 of Yamawaki were replaced with the pressure-sensitive chip 130 of Nomura. Nothing in Yamawaki or Nomura would motivate one to remove the glass window pane 12 because Nomura teaches one to always protect the pressure-sensitive chip from contamination.

Second, even if one could modify Yamawaki with Nomura, the case law and the MPEP make clear that the mere fact that references can be combined or modified is not sufficient to establish obviousness. As stated in MPEP 2143.01(III), “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Nothing in the prior art suggests the desirability of replacing the Yamawaki optical chip 1 with the Nomura pressure-sensitive chip 130. The Examiner does not explain why, if faced with an application that requires a pressure sensor chip, one would not simply use the Nomura pressure sensor device rather than trying to modify the Yamawaki optical device to become a pressure sensor.

Third, the Examiner’s proposed change to the Yamawaki device would improperly render the Yamawaki device unsatisfactory for its intended purpose. As stated in MPEP 2143.01(V), “If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)” The proposed modification of Yamawaki to replace the optical chip 1 with the pressure-sensitive chip 130 of Nomura would improperly render the Yamawaki device unsatisfactory for its intended purpose as an optical device.

For the foregoing reasons, claim 19 is nonobvious in view of Nomura and Yamawaki. Claims 21 and 24 depend on claim 19, and thus, are also nonobvious.

Although the language of claim 27 differs from that of claim 19, the allowability of claim 27 will be apparent in view of the above discussion.

Yamawaki and Nomura do not teach or suggest the invention recited in claim 22. Claim 22 recites that the device includes a dyke or barrier that surrounds an elastic projection portion and is formed on a surface of an electronic circuit. The Examiner asserts that the wall 3 of Yamawaki is such a dyke or barrier², the elastic material 132 of Nomura is a projecting portion, and the combination Yamawaki would create the invention. The motivation provided by the Examiner is that the elastic material 132 would provide better protection for the chip.

Regardless of whether there would have been a motivation for combining Yamawaki and Nomura, the resulting device would not satisfy the language of claim 22 for several reasons. First, the combination of Yamawaki and Nomura would not include a dyke or barrier that surrounds and elastic projection portion. Instead, the protective member 132 of Nomura extends across the entire top surface of the device 130 while the elastic wall 3 of Yamawaki is positioned away from the edges of the device 1. As such, the protective member 132 would completely cover the elastic wall 3 on three sides, and thus, the elastic wall 3 would not surround the protective member 132.

Second, the prior art does not provide any suggestion to use both the elastic wall 3 of Yamawaki and the protective member 132 of Nomura rather than replacing the elastic wall 3 with the protective member 132 or replacing the protective member 132 with the elastic wall 3. The only reasons mentioned by Yamawaki for the elastic wall 3, to protect the device 1 during molding and to support the glass layer 2, are not applicable to any device that incorporates the protective member 132 of Nomura, and thus, there is no reason in the prior art to include both the elastic wall 3 and the protective member 132. Only an improper hindsight reconstruction based on the applicants' disclosure provides such a suggestion.

Third, there is no suggestion that the elastic material of Nomura could or should be used to provide better protection to the Yamawaki device. The glass window pane 12 of

² The Examiner's assertion that the Yamawaki wall 3 is both the projecting portion of claim 19 and the dyke surrounding a projecting portion in claim 22 would seem to suggest that the Examiner is improperly using hindsight based on the applicant's disclosure of the invention.

Yamawaki already closes the opening in the resin package 9, so there is no need to add the elastic material 132 of Nomura to the Yamawaki device. Certainly, neither Yamawaki nor Nomura suggests such a "belt and suspenders" approach. In addition, Nomura does not teach or suggest that the elastic material 132 is transparent at all, let alone transparent enough to be incorporated into the optical device of Yamawaki, and thus, one would not be motivated to use the Nomura elastic material instead of, or in addition to, the glass window pane 12 of Yamawaki. For the foregoing reasons, claim 22 is nonobvious in view of the cited prior art.

Although the language of claims 29, 31-33, 36, and 38 differs from that of claim 22, the allowability of claims 29, 31-33, 36, and 38 will be apparent in view of the above discussion.

New claims 40-41 and 42-43 depend on claims 22 and 29, respectively, and thus are in condition for allowance for the reasons expressed above with respect to claims 22 and 29.

The applicant submits that all pending claims are allowable in view of the foregoing remarks. If there are any remaining issues to be resolved the applicant respectfully requests the Examiner to contact the applicant's attorney, Robert Iannucci, for a telephone interview.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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